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Notes on Calospasta Lec.

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Some years ago, in a critical review of the genera of Meloidæ, it seemed evident, from the modifications of the form of the tarsal claws, that some genera remained to be discovered to fill the gaps existing. These forms were indicated at the time and one of them has already been found. Another of the missing links must come in the vicinity of the genus under discussion and is really foreshadowed in the slight claw modifications already observed. That the material may be at hand and ready for use in the event of further discoveries is my excuse for presenting this short paper for the consideration of those interested.

CALOSPASTA LEC.

In the *Trans. Am. Ent. Soc.*, 1878, p. 60, I gave a brief table of the species then known to me. Since then another species has been described (*loc. cit.*, 1883, p. 312).

Two more new species have recently been collected, both from California, which, with the one not included in my previous table, will require some modification of it.

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|-----------------------------------------------------------------------------------------------|-------------------------|
| 1. Spurs of hind tibiæ slender and not very dissimilar | 2 |
| Spurs of hind tibiæ dissimilar, the inner slender, the outer cylindrical
and truncate..... | 6 |
| 2. Elytra strongly costate | 1. <i>mirabilis</i> . |
| Elytra not costate..... | 3 |
| 3. Median line of front deeply impressed ; head red..... | 2. <i>histrionica</i> . |
| Median line of front not at all impressed ; head and thorax dark
blue or green | 4 |
| 4. Median line of thorax impressed ; thorax not longer than wide ;
color green..... | 3. <i>viridis</i> . |
| Median line of thorax not impressed..... | 5 |

5. Thorax narrow, longer than wide; elytra ornate.
 Head and thorax obviously punctate..... 4. *elegans*.
 Head and thorax quite smooth..... 5. *perpulchra*.
 Thorax short, nearly twice as wide as long; black, subopaque.
 6. *Fulleri*.
 6. Body above and beneath entirely black..... 7. *moesta*.
 Thorax red.
 Head and thorax sparsely but distinctly punctate, each punctured with a short, black, neat hair..... 8. *Morrisoni*.
 Head and thorax absolutely smooth, without hair.
 9. *nemognathoides*.

C. mirabilis Horn, *Trans. Am. Ent. Soc.*, 1870, p. 93.

In this species the antennæ are filiform, the joints closely articulated.

The anterior tarsi of the male are simple, the last ventral segment with a shallow semicircular emargination.

Occurs in Southwestern Utah, Mojave Desert and San Diego, Cal., Rock Spring and near Yuma, Ariz.

C. histrionica, n. sp.

Piceous black, moderately shining, head red, humeri triangularly orange yellow. Antennæ black, filiform, joints moderately closely articulated: head oval, smooth, with but few punctures; median line deeply impressed, hind angles rounded, mouth parts piceous; thorax longer than wide, much narrowed at anterior half; disk feebly convex, transversely depressed in front, a feeble median impression posteriorly, surface almost entirely smooth; elytra nearly twice as wide at base as the thorax, a faint slender costa on each side; surface scabrous, the humeri nearly smooth; body beneath piceous black, shining. Length .34-.54 inch; 8.5-14 mm.

Male.—First three joints of the anterior tarsi thickened, gibbous on the upper side, with a deep groove producing a bilobed appearance. Last ventral with a small triangular notch.

Female.—Anterior tarsi simple. Last ventral entire.

The form of the anterior tarsi of the male is a repetition in a less marked manner of that observed in *Eupompha*, while the form of the head, especially in reference to the median groove of the front, is seen in both *Eupompha* and *Tegrodera*.

It seems probable that species will yet occur requiring the union of the three genera, as all of them are characterized by the claws being unequally cleft, the lower portion shorter than the upper and connate with it.

Collected near San Diego, Cal. For specimens I am indebted to the kindness of Dr. C. V. Riley.

C. viridis Horn, *Trans. Am. Ent. Soc.*, 1883, p. 312.

Antennæ rather stoutly filiform, the joints closely articulated, 4-10 not longer than wide.

The thorax is wider than long, the median line impressed.

The male has simple anterior tarsi. The last ventral is broadly triangularly emarginate and impressed along the middle.

This species is notable in having the claws cleft very near the tip, so that the under portion is but little shorter than the upper.

Occurs in Colorado and New Mexico. Collected by Prof. F. H. Snow.

C. elegans, *Lec. Ann. Lyc.*, v, p. 161; *Proc. Acad.*, 1853, p. 341; var. *humeralis* Horn, *Trans. Am. Ent. Soc.*, 1870, p. 93.

Antennæ filiform, moderately closely articulated, joints all longer than wide. On each side of the front, at the insertion of the antennæ, is a gibbosity causing a deep depression above the clypeus.

When fully colored, the dull blue elytra have a yellow vitta of irregular form starting from the humeri, continuing closer to the side than the suture and with an interruption near the apex. The vitta may be reduced in size until there remains merely a triangular humeral spot.

The males have the anterior tarsi dilated, not very notably except the first joint; there is, however, no depression above. The last ventral segment is feebly triangularly emarginate.

Occurs in various parts of Southern California, from San Diego northward.

C. perpulchra Horn, *Trans. Am. Ent. Soc.*, 1870, p. 92.

Very like *elegans* in all its structural characters. The bright blue elytra have three yellow bands, basal, median, and apical, interrupted by the suture. This species may vary by the gradual loss of the bands, from the apical to the basal, until the elytra are entirely blue. Those with the humeral spot only resemble the var. *humeralis*, of the preceding species; but apart from the ornamentation, the two species may be distinguished by the present having a brighter blue color, smoother surface, the head and thorax quite smooth, while in *elegans* they are very obviously punctate.

The sexual characters are as in *elegans*.

Occurs in Owen's Valley, Cal.

C. Fulleri Horn, *Trans. Am. Ent. Soc.*, 1878, p. 59.

Black, subopaque. Antennæ filiform, but rather stout; joints closely articulated and scarcely longer than wide. Head, from in front, triangular in form, the sides parallel behind the eyes, hind angles obtuse, occiput truncate. Thorax nearly twice as wide as long.

The anterior tarsi of the male are simple; the last ventral broadly triangularly emarginate, the fifth broadly and not deeply emarginate.

Occurs in Southern California. Found rather abundantly by Mr. Morrison.

C. moesta Horn, *Trans. Am. Ent. Soc.*, 1878, p. 59.

Entirely black. Thorax longer than wide, not closely punctate. Antennæ slightly thicker externally, the joints submoniliform and not

closely articulated. Tarsal claws cleft very near the base, the lower portion not half the length of the upper. Spurs of hind tibiæ dissimilar, the outer cylindrical, the apex truncate and slightly expanded, inner spur slender.

The males have the anterior tarsi simple, the last ventral with a shallow triangular emargination.

From Southern California, precise locality not known.

C. Morrisoni, n. sp.

Elongate, black, thorax orange red. Antennæ black, slightly thickened externally, joints moniliform; head transversely quadrate, usually with a central rufous spot, parallel for a short distance behind the eyes, hind angles rounded, surface sparsely punctate; thorax scarcely longer than wide, widest one-third from apex, apical third more rapidly narrowed, posterior two-thirds slightly narrowed, disk feebly convex; a slight median depression posteriorly, surface sparsely but distinctly punctate and with shortened black hairs; elytra scabrous, with very short hairs; body beneath black, shining, sparsely pubescent; posterior tibial spurs dissimilar, the outer cylindrical, truncate, slightly broadened at tip, the inner slender and acute; claws deeply cleft, the lower portion more than half the length of the upper. Length .42-.64 inch; 10.5-16 mm.

Male.—The anterior tarsi are simple. Last ventral broadly triangularly emarginate and slightly longitudinally impressed.

In color this species resembles the following, but the head and thorax are very distinctly punctate and more or less pubescent. It is, moreover, much larger, and the surface scarcely shining.

Occurs in Southern California, and was found rather abundantly by Mr. Morrison. At the time when I had but a unique of the next species I supposed these to be merely fully-developed specimens of it.

C. nemognathoides Horn, *Trans. Am. Ent. Soc.*, 1870, p. 92.

Black, moderately shining, thorax red. Antennæ comparatively slender, the joints longer than wide, not moniliform; head quite smooth, with few very indistinct fine punctures; thorax as wide as long, sides arcuately rounded in apical half, disk convex, without impression, surface smooth and shining; elytra scabrous, sometimes feebly so, surface moderately shining; body beneath black, shining; spurs of hind tibiæ dissimilar, the inner slender, acute, the outer cylindrical, truncate, and slightly wider at tip; claws not deeply cleft, the lower portion two-thirds the length of the upper. Length .22-.32 inch; 5.5-8 mm.

In the male the anterior tarsi are slender. The last ventral segment is deeply incised.

This species might be supposed to be merely a feebly developed form of the preceding. The differences have there been given, to which might here be added the form of the antennæ. It also resembles several of our species of *Nemognatha*.

Occurs in Owen's Valley, Cal., and in Arizona near Fort Yuma.